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ARTHROPODA: General.**THE TYPES OF GENERA.**

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It is a self evident proposition that no stable nomenclature can result until the types of all the older genera are definitely fixed. The American Ornithologists Union's code decides that this shall be effected by the method of elimination, and the last quarter of a century has seen numerous attempts in this direction. The results, however, have not equalled the expectations; stability is apparently further off than ever. We are aware of several instances where every author that has dealt with a certain genus has arrived at a different species as the type, all proceeding by apparently the same method. In fact the method contains a fatal defect in that it tacitly requires a complete knowledge of all the literature, a thing most difficult to attain. Moreover the method is extremely laborious and requires a great expenditure of time over a matter entirely subsidiary to the end in view, which is after all the study of organic nature, not the study of a set of names. Mr. F. Pickard Cambridge says: * "Elimination pure and simple in its practical application almost invariably lands us in an absurdity. In this way, the species which the authors withdraw are usually those that are best known, with characters salient and well described, leaving in those least known, with this result, that the last species left in is one which is not known, is badly described, and never likely to be identified with any certainty; and this miserable phantom is left us as the type of the genus."

After consideration, we believe that the method of first species is the only practical way of determining types and we have in mind the revision of certain orders of insects on this basis. The Sphingidæ have been thus revised by Rothschild and Jordan,† but two of their rules seem to us unwarranted. The ruling requiring generic terms to be verbally defined we would not defend nor adopt. A genus is suf-

* Ann. Mag. Nat. Hist. (7), viii, 403, 1901.

† Revision of the Sphingidæ, Nov. Zoöl., ix, Supplement, 1903.

ficiently defined by the citation of one or more described species. Since no generic description is ever absolutely complete and the majority are utterly useless to the monographer it is an arbitrary act to require any verbal description. A species, of course, stands on a different basis. Rothschild and Jordan's other rule that a genus is a synonym of an earlier one if it contains the type of the latter is likewise unnecessary. If both are founded on the same type species they are of course synonymous; but if they have different types, both may well be recognized, even though proposed to contain the same original species. In this we agree with the American Ornithologists Union's code.* The following is our proposed method:

We accept the American Ornithologists Union's code with the following exceptions. Canons XXI, XXIII, XXIV, XXXVI and XLV are rejected. Canon IV is acceptable except that we would fix the endings also for tribes and superfamilies; canon V, except that the name is to be taken from the oldest included genus; canon VIII, except that the agreement with the supposed gender of the genus is not necessary; canon IX, except that varietal names are retained; canons XVII and XVIII, except that we recognize absolute priority; canon XXXVII, except that a generic name must be based only on a species previously or contemporaneously defined; canon XL, except that typographical errors are accepted unless they introduce into a name characters not in the Latin alphabet. In such cases we would amend so far as to substitute the Latin equivalent, if there is one. If there is none, the name must be rejected.

In another form our ideas may be thus expressed:

1. Generic and specific names are to be written as originally proposed without emendation unless they contain characters not in the Latin alphabet or are not binomial.

Letters of the Latin alphabet are to be substituted for foreign characters if there is an equivalent. W is the only English letter not found in Latin.

2. Generic names are considered to be founded on one species only. When the type species is not designated by the original author the first species is to be regarded as the type.

Species marked definitely by the author as unknown to him should not be taken as types. The figuring of a species is a virtual designation of type.

* The following papers may profitably be consulted on this subject: Kirby, *Proc. Ent. Soc. Lond.*, 1868, p. xlii; Cook, *Science*, N. S., xv, 646, 1902; Rothschild & Jordan, *Nov. Zööl.*, ix, Suppl., 1903.

3. A generic name need not be accompanied by any verbal description. It is considered to be founded in the sense of rule 2 if accompanied by the names of one or more described species in a published article.

If there is no species mentioned, or those mentioned are not then or previously characterized, the name is invalid, even though accompanied with a description.

4. Names proposed as subgeneric or subspecific are to be treated as if of generic or specific value.

5. A specific name to be valid must be accompanied by a description or a figure or such data as will separate it from the other species of the genus then known.

The citation of type specimens in a collection does not constitute definition. We regret that it is impossible to differentiate between adequate and inadequate descriptions. The only place where it seems that a line can be drawn that is not too much subject to individual interpretation is between an attempt at a description, however feeble, and none at all.

6. Superfamily, family, subfamily and tribal names shall be formed from the oldest valid generic name included in their respective groups by the following endings: -oidea, -idæ, -inæ, and -ini respectively.

If the genus on which the higher name is founded becomes invalid, the higher name is to be changed, following that of the next oldest genus and not the one that may be substituted for the oldest.